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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

In re patent application of: )  
Mark G. LUEHRMANN, et al. ) Before the Examiner  
Serial No. 09/856,745 ) Bradley J. Van Pelt  
Filed September 24, 2001 ) Group Art Unit 3682  
CONNECTING ROD WITH ) September 1, 2005  
PROFILED BORE FOR )  
INCREASED LOAD CAPABILITY )

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Sir:

**INTRODUCTORY COMMENTS**

In response to the Examiner's Answer mailed August 19, 2005, Appellants now submit their Reply Brief. Accompanying this Reply Brief is a proposed Amendment. The reasons for submitting this proposed Amendment are set forth in the following remarks. With regard to the arrangement of this Reply Brief, the following lettered section headings correspond to the same lettered sections in the Examiner's Answer.

(A.) The Combination of Justinien et al. and Fangman.

(1.) The single issue regarding ring 14 of the Justinien et al. structure is what to do with it. Since the Examiner was treating rod 8 as the recited “piston pin”, it was assumed by Appellants that ring 14 was being eliminated by the Examiner so that the Examiner’s piston pin (i.e., rod 8) would contact, or at least try to contact, the piston body (P).

What the Examiner has now stated in his Answer is that ring 14 is being transformed as a part of or integrated into the connecting rod, based on the Fangman disclosure. In terms of what would or would not be obvious, it seems only logical to permit a result or finding that is otherwise consistent with the intended design and functioning of the parts that are being integrated together. For example, a conventional hammer includes a handle, a head, and often a pin or wedge to securely fasten the handle to the head. Making the handle and head an integral or unitary structure, such as by casting, would clearly retain the original design intent of this two-component (or perhaps three-component) combination. Both components of this two-component combination, now integrated together as a unitary member, continue to cooperate and function as they did prior to the transformation. They continue to be securely joined together and perform as a unitary member the exact same functions they performed when arranged as two separate components. This is the basis for concluding that the integrating of two components into a unitary member would (normally) be obvious to a person of ordinary skill in the art. However, this is not what the Examiner is suggesting with regard to the

integration of ring 14 into a single component as part of the connecting rod. The Examiner's attempt to unitize ring 14 with the connecting rod fails to meet the obviousness standard in that these two component parts do not continue to function in their same manner.

Considering the disclosure of Justinien et al. in column 3, lines 35-43, as previously referenced in the Appeal Brief, the Board's attention is directed to the language that states that the connecting rod is constructed and arranged to "rotate around said central ring". The "central ring" is item 14. This means that the intended and designed relationship between the connecting rod and the central ring 14 is that the connecting rod must rotate around the central ring.

The Examiner intends to significantly alter the underlying design and design intent of Justinien et al. by eliminating the capability of relative motion between these two parts. Contrary to the disclosure and intent of Justinien et al., the Examiner wants to integrally fuse these two parts together into one piece. When this redesign is effected, it changes both parts. Initially, it is intended for one part to rotate around the other part. However, the Examiner's integration into a single part does not permit any relative rotation between the two. When this occurs, the "domino effect" requires that the integrally fused central ring 14 now rotate around the cluster of rods 8 and 9. However, no relative rotation or other relative motion between ring 14 and rods 8 and 9 is described in Justinien et al. An understanding of the described Justinien et al. structure confirms that this is neither intended nor desired since, according to Justinien et al., all rotation would occur at the interface between the connecting rod and the central ring, an interface that has now been eliminated.

In part, this explanation clarifies why Appellants assumed that the Examiner's final rejection was based on eliminating central ring 14. The Examiner has now explained that he is not eliminating central ring 14, just creating an entirely different structure out of Justinien et al. that effectively teaches in the opposite direction. This "creation" is not something that would be obvious and only results from hindsight manipulation to try and create the claimed invention, regardless of what has to be changed to do so.

(2.) With regard to the "bore" issue, Applicants did not attempt to "define" the bore as a drilled hole. Referring to a commonly understood machining function that would create a cylindrical bore portion seemed to be acceptable. However, since an issue has now been made of Applicants' use of the term, "drilled", please accept and interpret any prior references to "drilled hole" as "cylindrical bore" (portion) instead. There is support for this definition in the specification of the subject patent application.

The point that is lost as we joust over the use of the term, "drilled", is that Fangman does not have a cylindrical bore portion, whether drilled, cast, reamed, or carved. The Fangman interior shape that the Examiner needs to call a "bore" is a non-cylindrical form and is described in Fangman only as "aperture 22". In fact, all that one could reasonably glean from Fangman, without some degree of hindsight knowledge or speculation, is that cylindrical pins are believed to be a problem based on the Fangman application, due to heat distortion (see column 2, lines 5-14). According to Fangman, it is important to use an I-beam shape for the pin as a way to address the heat distortion issue. In view of this selected pin shape, it is noted that the corresponding peripheral

configuration only contacts the inner surface of aperture 22 along four “corner” edges, see Fangman, FIG. 2.

Since this “bore” description seems to be a significant issue with the Examiner, an amendment (separate paper filed herewith) is proposed so as to define the “bore” as including a generally cylindrical bore portion between the first and second profiled bore sections.

Admittedly, Appellants do not know how this Board views all of the recent dialog coming out of recent cases in terms of how claim language should be interpreted and defined. While some seem to prefer reliance on the specification, others seem to think that dictionary definitions are important. Either way, Fangman does not teach a generally cylindrical bore (portion). Also, consistent with Appellants’ thought process and intent, the term, “bore”, is defined in Webster’s Unabridged Dictionary of the English Language, RHR Press, copyright 2001 by Random House, Inc. as follows:

- (1.) to pierce (a solid substance) with some rotary cutting instrument.
- (2.) to make (a hole) by drilling with such an instrument.
- (9.) a hole made or enlarged by boring.

As an aside, though relevant to the discussion in the next section, reviewing this same Dictionary for the definition of the term, “pin”, failed to produce any definition of the thirty-two (32) definitions that were listed that described a corresponding structure as comprising a plurality of pieces.

(B.) The Rods 8 of Justinien et al.

This issue seems to reduce down to whether a rod 8 or a plurality of rods 8 can satisfy the claimed language of “a piston pin”. While Appellants disagree with the somewhat all encompassing nature of the Examiner’s analysis, it is understood. What is not understood is where, in column 3, lines 35-43 of Justinien et al., as cited by the Examiner, there is any mention of “rings 11 hold the rods 8 together forming one pin that deflects”.

Rather than allow this debate to drag on, it seems as if the most appropriate “fix”, as suggested by the Examiner, is to amend the claims to recite a single pin. The accompanying proposed Amendment includes this added element as suggested or at least invited by the Examiner.

(C.) Any Motivation?

The integral ring 14 and “bore” issues have already been addressed in the remarks of Sections (A) and (B). Fangman does not show a “bore” and its I-beam “pin” only makes aperture contact along four corner edges. This does not provide any support, direction, or motivation for the substantial uses being made of this reference by the Examiner. The Examiner is assuming, theorizing, and drawing significantly more from Fangman than it actually discloses. The “motivation” for the Examiner to take these liberties is to try and find a way to create the claimed invention when the two references being combined do not do so. The only way to fashion the rejections of the pending

claims in the manner set forth in the Final Office Action is to rely on some degree of hindsight knowledge gained from reading and studying the subject patent application.

### Conclusions

In view of these remarks and analysis, and considering the proposed Amendment, the Board of Patent Appeals and Interferences and the Examiner are respectfully requested to indicate the allowability of claims 26-35, as amended.

Respectfully submitted,

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